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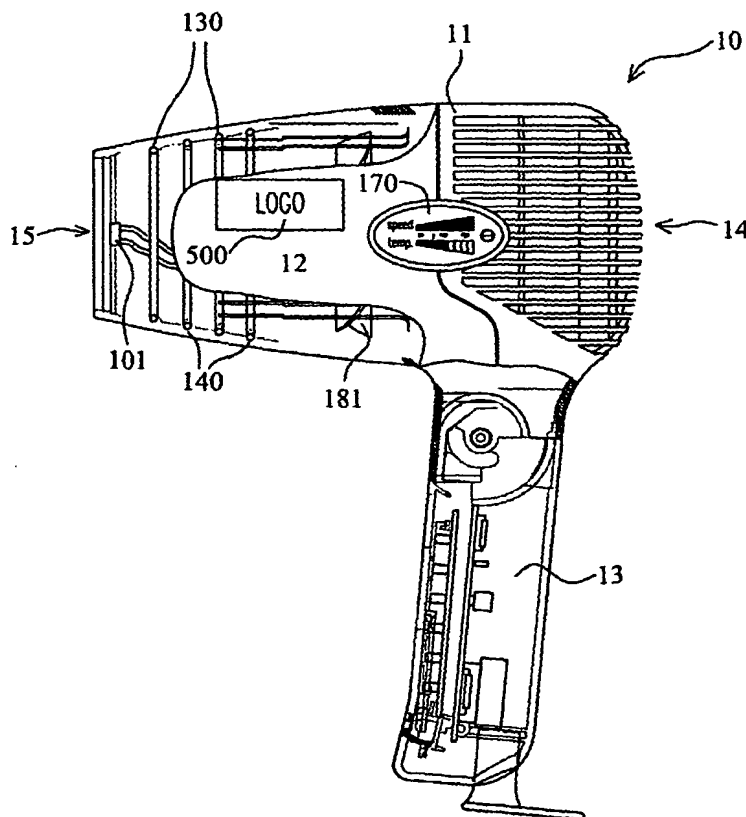
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[Continued on next page]

(54) Title: IMPROVED PERSONAL CARE DEVICE WITH THERMAL FEEDBACK AND OPERATING CONDITIONS DISPLAY



(57) Abstract: A personal care device (10) such as a hair dryer with thermal feedback sensor (101) near the air-outlet (15) for automatic heating power reduction when a pre-determined threshold temperature has reached. The device further includes graphical and numerical displays (170) indicating its operating conditions.

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According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 A45D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 260 875 A (WALTER HENRY J ET AL) 7 April 1981 (1981-04-07) column 2, line 59 -column 3, line 11; figure 1	1-3
Y	---	4-8
X	US 4 711 988 A (YIP P C ET AL) 8 December 1987 (1987-12-08) column 4, line 15-20; figure 1	1
X	US 5 790 749 A (HAZAN JEAN-PIERRE ET AL) 4 August 1998 (1998-08-04) column 2, line 48 -column 3, line 27; figure 1	1
Y	FR 851 013 A (BALLANSOFF) 2 January 1940 (1940-01-02) column 1, line 1-5; figure 1	4
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6 397 003 B1 (CHENG CHUAN-HSIN) 28 May 2002 (2002-05-28) column 2, line 50-54 ---	6-8
Y	US 4 258 731 A (TSUJIMOTO SUSUMU ET AL) 31 March 1981 (1981-03-31) the whole document ---	6-8
Y	US 6 393 718 B1 (HARRIS DAVID ET AL) 28 May 2002 (2002-05-28) the whole document -----	5

# INTERNATIONAL SEARCH REPORT

International Application No  
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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4260875	A	07-04-1981	CA 1130848 A1	31-08-1982
US 4711988	A	08-12-1987	NONE	
US 5790749	A	04-08-1998	DE 69527671 D1 DE 69527671 T2 EP 0679350 A1 JP 7289347 A SG 46131 A1	12-09-2002 03-04-2003 02-11-1995 07-11-1995 20-02-1998
FR 851013	A	02-01-1940	NONE	
US 6397003	B1	28-05-2002	NONE	
US 4258731	A	31-03-1981	JP 54136963 A DE 2915377 A1 FR 2422357 A1 GB 2018585 A , B IT 1119743 B	24-10-1979 25-10-1979 09-11-1979 24-10-1979 10-03-1986
US 6393718	B1	28-05-2002	NONE	